MONTANA DEPARTMENT OF FISH, WILDLIFE AND PARKS

FISHERIES DIVISION
JOB PERFORMANCE REPORT

STATE: Montana

PROJECT NO: F-33-R-15

JOB NO: I-b

PROJECT TITLE: Flathead Lake Fisheries Investigations

JOB TITLE: Measure annual trends in recruitment and migration of kokanee populations & identify major factors affecting trends

PERIOD COVERED: July 1, 1980 to June 30, 1982

OBJECTIVES

It shall be the objective of this job to determine the relative abundance of kokanee, and to identify the environmental factors affecting population changes.

ACCOMPLISHMENTS

All the procedures outlined for the present segment of this job were accomplished. Population indices for kokanee 10 inches and larger were established for the 1980-81 season. These indices were established by reviewing portions of over 30 hours of acoustical tape data. An average of 43.0 fish/hectare (17.4 fish/surface acre) was calculated from data collected on 67 kilometers (41.6 miles) of transects conducted in early September. Indices for smaller juvenile salmon were made for October and November.

Kokanee fry emigrating from upper river spawning sites were monitored with overnight drift nets and 10 minute meter net hauls from late March through June, 1980, in the Flathead River near Kalispell.

Age composition of mature salmon were determined from otolith bones collected on 12 major spawning sites. The site represented four river and eight lakeshore spawning areas. A shift in the dominant age group toward five-year-old salmon was noted in both river and lake spawning areas. This is the first time since 1974 that these older fish dominated the spawners. The average size of the mature males was 379 mm (14.9 inches) total length in the lake and 371 mm (14.6 inches) in the river.

Growth measurements calculated from a sample of 220 scales collected in the mid-water trawl and creel checks were analyzed and will represent the present years growth patterns.

A paper titled "Feeding Success of Hatchery-reared Kokanee Salmon when Presented with Zooplankton Prey" was printed in The Progressive Fish Culturist, Volume 44, No. 1, Jan. 1982. The project leader co-authored the paper with Gary L. Vinyard and Ray W. Drenner.

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Date: June 4, 1982